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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

PEREZ DAPLE, AARON C

ART UNIT	PAPER NUMBER
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2154

DATE MAILED: 06/25/2004

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/855,893

Applicant(s)

BON ET AL.

Examiner

Aaron Perez-Daple

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2, 18 and 19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 18 and 19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is in response to Amendment filed 4/5/04, which has been fully considered.
2. Claims 3-17 and 20-27 are withdrawn from consideration.
3. Amended claims 1, 2, 18 and 19 are presented for examination.
4. This action is FINAL.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. **Claims 1 and 18** are rejected under 35 U.S.C. 102(b) as being anticipated by Seki et al (US 5,963,451) (hereinafter Seki).

As for claims 1 and 18, Seki discloses a computerized system for customizing the operational program for a slave object (machined object) on a slave machine (slave machine is the NC device, not shown), comprising:

a master segmentator operable to group the action sites of a master object on a master machine into segments and store the reference data related to said segments in a master file (performed by CAD system; col. 3, lines 12-41, "According to another...updated for renewal.");

a slave regenerator, coupled to said master file, operable to regenerate said master reference data so that variable characteristics of said slave machine are defined and adaptively compensated (steps S6-S9, fig. 6); and

a slave corrector, coupled to said slave regenerator, operable to correct said operational program for said slave object on said adaptively compensated slave machine (CAM system generates new NC data; col. 3, lines 12-41, "According to another...updated for renewal.").

7. **Claims 1 and 18** are rejected under 35 U.S.C. 102(b) as being anticipated by Kono et al (US 5,516,023) (hereinafter Kono).

As for claims 1 and 18, Kono discloses a computerized system for customizing the operational program for a slave object (IC chip) on a slave machine (bonding head 4 and bonding tool 3, Fig. 8), comprising:

a master segmentator operable to group the action sites of a master object on a master machine into segments and store the reference data related to said segments in a master file (col. 2, lines 64-68, "The memory unit stores...to wire bonding.");

a slave regenerator, coupled to said master file, operable to regenerate said master reference data so that variable characteristics of said slave machine are defined and adaptively compensated (col. 3, lines 1-16, "The image processing unit...wire bond objects."); and

a slave corrector, coupled to said slave regenerator, operable to correct said operational program for said slave object on said adaptively compensated slave machine (col. 3, lines 13-16, "The control unit...wire bond objects.").

Double Patenting

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. **Claims 1, 2, 18 and 19** are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-28 of U.S. Patent No. 6,597,963 B2 (hereinafter Koduri '963). The applicant is reminded that the specification may be used to support the double patenting rejection where the invention claimed in the application is "an obvious variation of an embodiment disclosed in the patent which provides

support for the patent claim.” (see MPEP 804 B.I.; *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970)).

As for claims 1 and 18, the recited elements of the claims correspond to the elements recited in claims 3 and 20 of Koduri ‘963. Specifically, the master segmentator of claims 1 and 18 corresponds to the master teacher of claim 3 of Koduri ‘693. The slave regenerators and slave correctors correspond to each other. Although the conflicting claims are not identical, they are not patentably distinct from each other because the “action sites” recited in claims 1 and 18 of the application may be represented as image data and location data recited in claims 3 and 20 of Koduri ‘963. This interpretation is supported by applicant’s disclosure (pg. 18, lines 10-18, “Associated with the...adaptive compensator 322.”) and Koduri ‘963 (col. 5, lines 4-17, “Another object of...slave object, are available.”).

As for claims 2 and 19, the claims are obvious over the limitations of claims 4 and 17, 21 and 28 of Koduri ‘693. Referring to claim 2, Koduri ‘693 explicitly recites the following elements, which are further claimed as performing the equivalent functions: a first input data generator, an analysis generator, a master file, a second input data generator, a third input data generator and a comparative corrector. It is clear from claim 17 that the elements of the comparative corrector further perform the functions of the recited segment comparator, action location corrector, relationship generator and operational program corrector. The limitations of claim 19 are anticipated by claims 21 and 28 of Koduri ‘693 in an analogous manner.

Koduri ‘693 does not specifically recite the limitation of a “fourth input data generator” as recited in claims 2 and 19 of the application. Further, Koduri ‘693 does not specifically

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recite the limitation of a “consecutively selected slave object” as recited in lines 43-44 of claim 19 of the application. Although the conflicting claims are not identical, they are not patentably distinct from each other because it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Koduri ‘693 by adding a fourth input data generator and selecting a consecutive slave object in order to speed up the assembly line process.

Response to Arguments

Claim Objections

10. Objections to claims 1, 2 and 18 are withdrawn in view of Amendment.

Claim Rejections

11. Applicant's arguments filed 4/5/04 have been fully considered but they are not persuasive.
12. With respect to the rejection of claims 1 and 18 under 35 USC 102(a) as anticipated by Seki, Applicant asserts on page 14 that Seki fails to teach certain limitations of the claim. The Examiner respectfully disagrees. First, Applicant asserts that Seki fails to teach a segmentator that groups action sites. The Examiner finds that this function is performed by the CAD/CAM apparatus as described in the cited passage of col. 3, lines 12-41. Applicant is further referred to col. 4, lines 48-55, “Fig. 3 is a diagram...the curved surfaces.” The Examiner interprets that the recited “action sites” correspond to the curved surface elements, which are further disclosed as grouped together by surface and/or line. In other words, the

master object is segmented into groups of curves and lines by the CAD/CAM apparatus in order to simplify the machining of the slave objects.

Applicant further asserts that Seki fails to teach a slave regenerator that regenerates the reference data so that variable characteristics of *the slave machine* (not the master machine) are defined and compensated. The Examiner finds that the CAD/CAM apparatus of Seki performs this function. Specifically, the CAD/CAM apparatus is disclosed as comprising a modification unit which is interpreted as the “slave regenerator.” The modification unit regenerates the machine path data, as disclosed in col. 5, lines 38-55. The machine path data is used to generate the NC machine data (where the NC machine is interpreted as the slave machine) and therefore ensures that the variable characteristics of the slave machine are defined and adaptively compensated.

Finally, Applicant asserts that Seki fails to teach a slave corrector that corrects the operational program on the compensated *slave machine* (not the modified master object). The Examiner finds that the CAM apparatus performs this function. Specifically, the CAM apparatus is disclosed as re-originating (regenerating) the NC data for execution by the NC machine (see previously cited passage, col. 3, lines 12-41). Note that the NC data is the operational program specific to the NC machine, where the NC machine is interpreted as the slave machine. Therefore, Seki teaches this limitation of the claims.

For all the reasons above, claims 1 and 18 are properly rejected under 35 USC 102(a) as anticipated by Seki.

13. With respect to the rejection of claims 1 and 18 under 35 USC 102(a) as anticipated by Kono, Applicant asserts on pages 14 and 15 that Kono fails to teach certain limitations of the

claim. The Examiner respectfully disagrees. First, Applicant asserts that Kono fails to teach a master segmentator that groups action sites of a master object. The Examiner finds that the identifying section of the image processing unit of Kono comprises a master segmentator for performing this function. Specifically, it is clear from the discussions in col. 2, lines 56-67, and col. 6, lines 4-16, that the image processing unit includes an identifying section (master segmentator) for grouping the action sites of the master object according to the type of element identified.

Second, Applicant asserts that Kono fails to teach a slave regenerator that regenerates the reference data so that variable characteristics of the *slave machine* are defined and compensated. The Examiner finds that the deviation calculation section of Kono comprises a slave regenerator, where the slave machine is the X-Y table 2a of Fig. 8. Applicant is referred to col. 6, lines 4-16, which recites:

The deviation calculation section calculates differences between the design coordinates of each of the inner leads 5 and the electrode pads 7 and corresponding one of the detected positions of all of the inner leads 5 and the electrode pads 7, then transmits the resultant differences or deviations to the control unit 16.

Furthermore, it is clear that the data is calculated to enable compensating the reference data and variable characteristics of the slave machine (e.g. X-Y table), since the control unit uses the reference data for that express purpose. See col. 6, lines 17-24.

Finally, Applicant asserts that Kono fails to teach a slave corrector that corrects the operational program on the compensated *slave machine*. The Examiner finds that the control unit of Kono performs exactly this function, as detailed in col. 6, lines 17-24:

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The control unit 16 compensates the amounts of movement of the XY-table 2a for executing a wire bonding operation for each of bonding points based on the deviations as obtained above, and controls the bonding tool 3 to carry out the wire bonding operation For each of the bonding point while moving the XY-table 2a in accordance with compensated values.

It is clear that an operational program is inherently required for controlling the X-Y table, as would be understood by one of ordinary skill in the art.

For all the reasons above, claims 1 and 18 are properly rejected under 35 USC 102(a) as anticipated by Kono.

Double Patenting

14. Applicant asserts that the Examiner has not established a prima facie case of obviousness. The Examiner has clearly laid out a case of prima facie obviousness in the previous rejection, which has been further detailed above. With respect to Applicant's specific assertion that the Examiner has failed to disclose how the grouping of action sites into segments would have been obvious to one of ordinary skill in the art at the time of the invention, further clarification is provided below.

The applicant is reminded that the specification may be used to support the double patenting rejection where the invention claimed in the application is "an obvious variation of an embodiment disclosed in the patent which provides support for the patent claim." (see MPEP 804 B.I.; *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970)). It is clear from the discussion in col. 7, lines 15-21, that the master teacher inherently groups the action sites into segments, where the groups correspond to the type of element (e.g. bond pad, alignment

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references, etc.). This would further be obvious to one of ordinary skill in the art since identification of the elements is necessary for placing them correctly on the IC.

Therefore, claims 1, 2, 18, and 19 are properly rejected under obvious type double patenting as obvious over Koduri '693.

Conclusion

15. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron Perez-Daple whose telephone number is 703-305-4897. The examiner can normally be reached from 9am - 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on 703-305-8498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Aaron Perez-Daple



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